

REMARKS/ARGUMENTS

Claims 1-20 are pending in the present application. Claims 13-20 were canceled; claims 1, 2, 4, 7, and 8 were amended; and claim 21 was added. Support for amendments to claims 1 and 2 may be found in the specification at on least page 19, line 14 through page 23, line 4, and in Figures 6-8. Claims 2, 4, 7, and 8 were amended to correct typographical errors and clarify any possible antecedent basis issues. Reconsideration of the claims is respectfully requested.

Applicants have amended some claims and canceled others. Applicants do not concede that the subject matter encompassed by the earlier presented claims is not patentable over the art cited by the Examiner. Applicants canceled and amended claims in this response solely to facilitate expeditious prosecution of this application. Applicants traverse all rejections and respectfully reserve the right to pursue the earlier-presented claims, and additional claims, in one or more continuing applications.

I. 35 U.S.C. § 112, Second Paragraph

The Office Action has rejected claims 1 and 13 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, which Applicants regard as the invention. This rejection is respectfully traversed.

Regarding this rejection, the Office Action states:

With respect to claims 1 and 13, the claims recite "perform authorization with the secondary grid resource".

It is unclear which device, the primary resource machine or other device, is performing the authorization.

In the Specification, for example, the Summary of Invention, Applicants disclose "[r]esponsive the proxy certificate, the user machine performs an authorization job on the secondary resource machine". For this reason, Examiner interprets the claimed limitation intended to be performed by the user machine (or other device).

Office Action dated January 25, 2008, p. 2.

In response, Applicants have amended claim 1 to recite "responsive to receiving the certificate request by the user data processing system, performing authorization with the secondary grid resource." Claim 13 has been canceled. Thus, Applicants believe that amended claim language overcomes the rejection of the Examiner.

Additionally, claims 2 and 14 were rejected for stating "if authorization with the grid resource fails, generating a valid proxy certificate," as it makes no sense to generate a valid proxy certificate if the authorization fails. In response, Applicants have amended claim 2 to recite "responsive to authorization

with the second grid resource succeeding, generating a valid proxy certificate.” Claim 14 has been canceled. Thus, Applicants believe that amended claim language overcomes the rejection of the Examiner.

Therefore the rejection of claims 1, 2, 13, and 14 under 35 U.S.C. § 112, second paragraph has been overcome.

II. 35 U.S.C. § 102, Anticipation

The Office Action has rejected claims 1-4, 6-8, 12-16 and 18-20 under 35 U.S.C. § 102 as being anticipated by *Low, M.R. et al.*, “A Self Authenticating Proxies,” 1994, The Computer Journal, Vol. 37, No. 5, (hereinafter “*Low*”). This rejection is respectfully traversed.

Regarding this rejection, the Office Action states:

With respect to claims 1, 13 and 20, Low discloses a method, apparatus and a computer program product for authorizing offloading of a grid job in a grid computing system, the method comprising:

submitting a grid job to a primary grid resource; responsive to a certificate request from the primary grid resource, identifying a secondary grid resource that is to run the grid job; performing authorization with the secondary grid resource; and if authorization with the grid resource fails, generating an invalid proxy certificate and sending the invalid proxy certificate to the primary grid resource (e.g. *Introduction* and *5. Delegation of Authority*, e.g. “The notion of cascading SAProxies to delegate authority may also be applied to represent combined authority to request an operation...this can be represented by a request from one that is endorsed by the *other*”)

Office Action dated January 25, 2008, p. 4 (emphasis in original).

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). Anticipation focuses on whether a claim reads on the product or process a prior art reference discloses, not on what the reference broadly teaches. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983). In this case, each and every feature of the presently claimed invention is not identically shown in the cited reference, arranged as they are in the claims.

Amended independent claim 1, which is representative of claim 21 in regards to similarly recited subject matter, recites:

1. A method for authorizing offloading of a grid job in a grid computing system, the method comprising:
submitting a grid job to a primary grid resource, by a user data processing system;

responsive to a determination by the primary grid resource to offload the grid job,
identifying a secondary grid resource that is to run the grid job;
responsive to identifying the secondary grid resource, generating a certificate
request;
sending the certificate request to the user data processing system;
responsive to receiving the certificate request by the user data processing system,
performing authorization with the secondary grid resource; and
responsive to authorization with the second grid resource failing, generating an
invalid proxy certificate and sending the invalid proxy certificate to the primary grid
resource.

Low fails to teach all the features of claim 1. *Low* fails to teach the features of “responsive to identifying the secondary grid resource, generating a certificate request,” “sending the certificate request to the user data processing system,” “responsive to receiving the certificate request by the user data processing system, performing authorization with the secondary grid resource,” and “responsive to authorization with the second grid resource failing, generating an invalid proxy certificate and sending the invalid proxy certificate to the primary grid resource.” *Low* teaches cascading proxies that are able to delegate authority from one proxy to another. That is *Low* does not teach performing authorizations on secondary resources. Rather, *Low* teaches that a user can delegate granted authority to use a process from one user to another using a certificate chain.

As taught by *Low* in section 5, Delegation of Authority, a first user that wishes to delegate part of a workload to a second user, the first user can generate a proxy using a chain of certificates that passes the authorization of the original user to the second user. However, the authority is passed directly from the user desiring to transfer the workload directly to the chosen second user. *Low* does not teach that a first resource that is performing a task requests an original requestor to perform an authorization of the second resource. Thus, *Low* fails to teach the features of “responsive to identifying the secondary grid resource, generating a certificate request,” “sending the certificate request to the user data processing system,” as recited in claim 1.

Additionally, *Low* does not teach performing an authentication on the second resource. Rather, *Low* teaches that the authority is passed directly from the user desiring to transfer the workload directly to the chosen second user. Thus, *Low* fails to teach the feature of “responsive to receiving the certificate request by the user data processing system, performing authorization with the secondary grid resource,” as recited in claim 1.

Furthermore, *Low* does not teach responsive to an authorization of the second resource failing, generating an invalid proxy certificate. *Low* does not teach invalid proxy certificates. According to *Low*, each user is already validated and has the authority to pass their own validation to another user. Thus, there is no need for an invalid proxy according to the system of *Low*. Thus, *Low* fails to teach the feature

of “responsive to authorization with the second grid resource failing, generating an invalid proxy certificate and sending the invalid proxy certificate to the primary grid resource,” as recited in claim 1.

Therefore, for at least the reasons set forth above, Applicants submit that the *Low* reference fails to anticipate claim 1, as the *Low* reference fails to teach all the features of claim 1. As claim 21 recited features similar to those of claim 1, the same distinctions between claim 1 and the *Low* reference applies to claim 21 as well. Since claims 2-4, 6-8 and 12 depend from claim 1, the same distinctions between *Low* and the claimed invention in claim 1 applies for these claims as well. Claims 13-20 have been canceled. Additionally, claims 2, 3, 6-8, 12 and 21 claim other additional combinations of features not suggested by the reference.

Claim 2 recites the feature of “responsive to authorization with the second grid resource succeeding, generating a valid proxy certificate,” and “sending the valid proxy certificate to the primary grid resource.” *Low* does not teach performing an authorization of a second resource. Further, *Low* does not teach sending a valid proxy certificate to a primary resource. Rather, *Low* teaches the exact opposite, *Low* teaches that a first user sends a valid proxy to a second user. Thus, *Low* fails to teach the feature of “responsive to authorization with the second grid resource succeeding, generating a valid proxy certificate,” and “sending the valid proxy certificate to the primary grid resource,” as recited in claim 2.

Claim 3 recites the feature of “wherein submitting a grid job to a primary grid resource includes submitting the grid job to a grid scheduler” and “wherein the grid scheduler selects a primary grid resource and sends the grid job to the primary grid resource.” *Low* does not teach a grid scheduler or any sort of scheduler. Rather *Low* simply teaches one user selecting a second user to transfer a granted authority to. *Low* is silent in regards to any kind of scheduler or submitting a job to be performed to a scheduler and the scheduler selects a primary resource. Thus, *Low* fails to teach the features of “wherein submitting a grid job to a primary grid resource includes submitting the grid job to a grid scheduler” and “wherein the grid scheduler selects a primary grid resource and sends the grid job to the primary grid resource,” as recited in claim 3.

Claim 6 recites the feature of “wherein performing authorization with the secondary grid resource includes submitting an authorization job to the secondary grid resource.” As argued above, *Low* fails to teach performing authorization with the secondary grid resource. Further, assuming *arguendo* that *Low* does teach performing authorization with the secondary grid resource, *Low* in no way teaches “submitting an authorization job to the secondary grid resource.” That is, *Low* teaches transferring authority to use a process from one user to another using a certificate chain. However, transferring authority to use a process from one user to another using a certificate chain is not the same as “submitting an authorization job to the secondary grid resource,” as all that is transferred to the second user is a valid proxy, according

to *Low*. Thus, *Low* fails to teach the feature of “wherein performing authorization with the secondary grid resource includes submitting an authorization job to the secondary grid resource,” as recited in claim 6.

Claim 7 recites the feature of “wherein the authorization job identifies security elements of the secondary grid resource.” As *Low* does not teach submitting an authorization job to a second resource, logically, *Low* cannot teach that “the authorization job identifies security elements of the secondary grid resource.” Thus, *Low* fails to teach the feature of “wherein the authorization job identifies security elements of the secondary grid resource,” as recited in claim 7.

Claim 8 recites the feature of “wherein the authorization job determines at least one of an operating system of the secondary grid resource, security updates installed on the secondary grid resource, whether the secondary grid resource has a trusted operating system, whether any conflicting grid jobs are running on the secondary grid resource.” As *Low* does not teach submitting an authorization job to a secondary resource, logically, *Low* cannot teach “the authorization job identifies security elements of the secondary grid resource.” Thus, *Low* fails to teach the features of “wherein the authorization job determines at least one of an operating system of the secondary grid resource, security updates installed on the secondary grid resource, whether the secondary grid resource has a trusted operating system, whether any conflicting grid jobs are running on the secondary grid resource,” as recited in claim 8.

Claim 12 recites the feature of “performing authorization with the secondary grid resource using one or more rules.” As *Low* does not teach submitting an authorization job to a secondary resource, logically, *Low* cannot teach “performing authorization with the secondary grid resource using one or more rules,” as recited in claim 12.

Claim 21 recites the features of “responsive to a determination, by the secondary grid resource, that the generated certificate is a valid proxy certificate, performing the grid job by the secondary grid resource,” “responsive to a determination, by the secondary grid resource, that the generated certificate is an invalid proxy certificate, refusing the grid job by the secondary grid resource,” and “responsive to the secondary grid resource refusing the grid job, identifying another secondary grid resource that is to run the grid job.” *Low* does not teach any of these features. Thus, *Low* fails to anticipate claim 21.

Therefore, the rejection of claims 1-4, 6-8, 12-16 and 18-20 under 35 U.S.C. § 102 has been overcome.

III. 35 U.S.C. § 103, Obviousness

The Office Action has rejected claims 5, 9-11, and 17 under 35 U.S.C. § 103 as being unpatentable over *Low* in view of *Braddy*, System and Architecture for Distributing, Monitoring, and Managing Information Requests on a Computer Network, U.S. Patent No. 6,304,967, October 16, 2001 (hereinafter “*Braddy*”). This rejection is respectfully traversed.

Regarding this rejection, the Office Action states:

With respect to claims 5 and 17, Low further discloses wherein identifying a secondary grid resource in the certificate request that is to run the grid job (5. Delegation of Authority, e.g. service or principle). Low does not disclose but Braddy discloses detecting the secondary resource machine by identity its address (Braddy, e.g. col. 10, lines 9-16, "information that identify application server...communication port address"). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Braddy's identifying a device by its port address with Low's teaching of identifying a second grid resource device in the certificate request to ensure the remote computer system (secondary resource) is connected to the Request Broker (primary resource) (Braddy, col. 10, lines 9-12).

Office Action dated January 25, 2008, p. 7 (emphasis in original).

Claims 5 and 9-11 depend from independent claim 1. *Braddy* does not cure the deficiencies of *Low*. *Braddy* does not teach the features missing from *Low*, the features of "responsive to identifying the secondary grid resource, generating a certificate request," "sending the certificate request to the user data processing system," "responsive to receiving the certificate request by the user data processing system, performing authorization with the secondary grid resource," and "responsive to authorization with the second grid resource failing, generating an invalid proxy certificate and sending the invalid proxy certificate to the primary grid resource." *Braddy* teaches a system for monitoring and managing information requests on a computer network. *Braddy* is silent in regards to the features of "responsive to identifying the secondary grid resource, generating a certificate request," "sending the certificate request to the user data processing system," "responsive to receiving the certificate request by the user data processing system, performing authorization with the secondary grid resource," and "responsive to authorization with the second grid resource failing, generating an invalid proxy certificate and sending the invalid proxy certificate to the primary grid resource." Thus, *Braddy* fails to cure the deficiencies of *Low*.

Therefore Applicants respectfully submit that the combination of *Low* in view of *Braddy* fails to render claim 1 obvious, as the combination of *Low* in view of *Braddy* fails to teach all the features of claim 1. Thus, Applicants submit that claim 1 is allowable over the cited combination of *Low* in view of *Braddy*. Since claims 5 and 9-11 depend from claim 1, the same distinctions between the combination of *Low* in view of *Braddy* and the claimed invention in claim 1 applies for these claims as well. Claim 17 has been canceled.

Therefore, the rejection of claims 5, 9-11, and 17 under 35 U.S.C. § 103 has been overcome.

IV. Conclusion

It is respectfully urged that the subject application is patentable over the cited references and is now in condition for allowance.

The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

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Respectfully submitted,

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